Eastern India Infrastructure Supply Chain Risks

A Field-Verified Due Diligence Brief — 2026

Highway, Energy, and Federal Procurement — West Bengal and Odisha

West Bengal and Odisha — states of analysis. Source: Survey of India administrative boundaries.

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Portfolio Piece 1 — Indus Corridor Intelligence

induscorridor.com

List of Abbreviations

Abbreviation	Full Form
ADB	Asian Development Bank
AIIB	Asian Infrastructure Investment Bank
AVL	Approved Vendor List
BOF	Basic Oxygen Furnace
BOT	Build-Operate-Transfer
BOM	Bill of Materials
BRO	Border Roads Organisation
CARE	Credit Analysis and Research Limited
DFC	Dedicated Freight Corridor
DFCCIL	Dedicated Freight Corridor Corporation of India Limited
DPIIT	Department for Promotion of Industry and Internal Trade
DPR	Detailed Project Report
DSR	Delhi Schedule of Rates
EPC	Engineering, Procurement, and Construction
GTE	Global Tender Enquiry
HAM	Hybrid Annuity Model
HSN	Harmonised System of Nomenclature
ICRA	Investment Information and Credit Rating Agency
IFC	International Finance Corporation
IIAC	India International Arbitration Centre
IMD	India Meteorological Department
JICA	Japan International Cooperation Agency
JV	Joint Venture
L1	Lowest Bidder (procurement term)
MES	Military Engineering Services
MoRTH	Ministry of Road Transport and Highways
MSME	Micro, Small, and Medium Enterprises
MT	Metric Tonnes
MTPA	Metric Tonnes Per Annum
NDMA	National Disaster Management Authority
NHAI	National Highways Authority of India
NHM	National Health Mission
NITI Aayog	National Institution for Transforming India
ODC	Over-Dimensional Cargo
PEB	Pre-Engineered Building
PIB	Press Information Bureau
PPP-MII	Public Procurement (Preference to Make in India) Order
PWD	Public Works Department
RAG	Red-Amber-Green (risk rating system)
RDSO	Research Designs and Standards Organisation
SAIL	Steel Authority of India Limited
SAROD	Society for Affordable Redressal of Disputes — Roads
UVAM	Unified Vendor Assessment and Management
PE	Private Equity

Executive Summary

All rupee figures in Indian currency (₹). 1 crore = 10 million; 1 lakh = 100,000. USD conversions approximate at ₹95/$1 (May 2026).

Three structural features of Eastern India's infrastructure procurement environment make standard PE underwriting assumptions for the region materially incorrect. The corrections are not incremental; each repositions a different line item in the underwriting model.

- A model that treats Eastern India as a single jurisdiction will underprice counterparty risk and misprice the region. The fiscal-health divergence is decisive: Odisha ranks among India's best states on the NITI Aayog (India's federal policy and planning body) Fiscal Health Index while West Bengal ranks among the worst, with a reported state-level payment freeze in May 2026 (The Telegraph, Kolkata, May 2026). Counterparty risk premia should be set independently by state.

- Where the Dedicated Freight Corridor is cited as a near-term logistics-cost catalyst, the thesis fails east of Sonnagar. The DFC terminates at Sonnagar, Bihar; the Kharagpur extensions are at DPR stage with no sanctioned timeline. Landed-cost premiums of 15-20% above ex-factory should be modeled as structural, not transitional.

- A model treating organized-market concentration (top 6-7 PEB manufacturers at 80-85%) as evidence of vendor depth will overlook the erection-contractor gap. The organized tier is only 42-47% of total India PEB market, and erection-contractor availability in Odisha is assembled through state PWD relationship channels. Vendor diligence must verify erection capacity separately from fabrication capacity.

Key Investor Questions

1. Can foreign suppliers realistically qualify for federal procurement frameworks in Eastern India?
2. Where are vendor concentration risks highest?
3. Which logistics bottlenecks are structurally underestimated?
4. How do monsoon cycles distort actual project economics?
5. What distinguishes West Bengal–Odisha procurement dynamics from Western Indian corridors?

Sources: Government of India primary documentation (MoRTH, NHAI, DPIIT, PIB 2024–2026); multilateral project portfolios (ADB, World Bank, AIIB, JICA, IFC); Indian rating agency data (ICRA, CARE); NITI Aayog Fiscal Health Index 2024–2025; field observations — Indus Corridor Intelligence, 2026. Full methodology, Page 16

EDITORIAL UPDATE — JUNE 2026

West Bengal Political Transition — Monitoring Advisory

Since this brief was finalized, West Bengal has elected a new state government with BJP leadership and active central government backing. The incoming administration has signaled comprehensive infrastructure and administrative reform across all sectors. While the structural fiscal conditions and payment risk profile documented in this brief remain the current operational reality, investors should monitor policy implementation over the next 12–18 months as reform commitments translate into on-ground procurement and payment behavior changes. ICI will publish an updated counterparty risk assessment for West Bengal in Q3 2026.

RAG Risk Matrix

Eastern India Infrastructure Underwriting (2026)

High risk | Moderate risk | Lower risk

Risk dimension	Rating	Note
Federal procurement qualification timeline for foreign suppliers	RED	30-42 months realistic from first RDSO (India's railways technical-standards and vendor-approval body) application; 6-18 months MES
Dispute-resolution architecture (highway claims >₹10 crore)	RED	Arbitration abolished Jan 2026; civil court 5-10 years
West Bengal state-funded counterparty payment reliability	RED	NITI Aayog worst-tier; May 2026 payment freeze reported (The Telegraph, Kolkata)
Eastern India landed-cost premium (steel, cement, PEB)	RED	15-20% above ex-factory peri-urban; compounds interior Odisha
Erection-contractor availability — Eastern India PEB	AMBER	Project-specific assembly through manufacturer-PWD channels
Contractor working-capital adequacy under contractual terms	AMBER	82% face >30-day delays; 80-150 day actual operating cycles
NH-16 Chandikhole–Bhadrak corridor cyclone exposure	AMBER	Fani 2019, Yaas 2021 precedents; distinct from monsoon risk
Odisha state-funded counterparty payment reliability	GREEN	NITI Aayog best-tier; delays administrative not fiscal
PPP-MII 70% Class-I threshold gazetting risk	AMBER	Under DPIIT review since April 2024; not gazetted

Sources: Government of India primary documentation (MoRTH, NHAI, DPIIT, PIB 2024–2026); multilateral project portfolios (ADB, World Bank, AIIB, JICA, IFC); Indian rating agency data (ICRA, CARE, India Ratings); NITI Aayog Fiscal Health Index 2024–2025; field observations — Amiya Bera, Principal, Indus Corridor Intelligence.
DPR = Detailed Project Report; PPP-MII = Public Procurement Preference to Make in India.

SECTION 1

1. Regional Context

Pipeline parity between West Bengal and Odisha is being misread as risk parity, and the misreading is repricing assets incorrectly. The two states carry comparable Bharatmala Phase-I cumulative allocations — 874 km sanctioned in West Bengal against 1,586 km in Odisha — and both received headline central-government commitments in the most recent project cycle. They are not, however, the same underwriting jurisdiction. The counterparty profile, the institutional anchoring, and the procurement behavior diverge in ways that materially change PE risk pricing.

Central political commitment to both states is now visible and sustained. India's Prime Minister committed ₹18,680 crore (~$2.2bn) in a single March 2026 visit to West Bengal, of which ₹16,990 crore (~$2.0bn) is road infrastructure — anchored by the foundation stone for the 231 km Kharagpur–Moregram High-Speed Economic Corridor (NH-116A), a ₹10,247 crore (~$1.2bn) Hybrid Annuity Model (HAM) project that integrates four national highway corridors and reduces Kharagpur–Siliguri travel time from 9-10 hours to 3-5. Odisha's signature project is the 110.875 km Bhubaneswar Capital Region Ring Road, a ₹8,307 crore (~$989M) HAM concession on the Kolkata–Chennai corridor, approved by the Union Cabinet in August 2025. The pipeline is real on both sides.

Pipeline parity, divergent counterparty profile

Dimension	West Bengal	Odisha
Bharatmala Phase-I sanctioned / awarded / constructed	874 / 385 / 314 km	1,586 / 967 / 871 km
New multilateral approvals 2024-25	~$692M across 5 sectors	~$356M, 0% infrastructure
Signature corridor in current cycle	NH-116A Kharagpur–Moregram, 231 km, ₹10,247 cr	Bhubaneswar Ring Road, 110.875 km, ₹8,307 cr
Counterparty profile	State fiscal stress; multilateral covenant overlay	Stronger state fiscal position; central + private capital

Sources: MoRTH RS Reply Dec 2024; PIB releases 2024-2026; ADB/World Bank project portfolios.

The institutional anchoring is the divergence. West Bengal has attracted approximately $692 million in new multilateral commitments during 2024-2025 across power distribution, drinking water, logistics, irrigation, and health — five sectors in an 18-month window. Odisha's confirmed multilateral portfolio contains roughly $356 million but with zero dedicated infrastructure loans; its infrastructure pipeline is funded by central government capital and private flows, not by ADB or World Bank instruments. For PE investors, this is not a quality judgement on either state. It is a structural difference: West Bengal infrastructure assets sit inside a multilateral oversight environment with the covenant and procurement-discipline architecture that implies. Odisha infrastructure assets sit outside it, with the operational flexibility and the absence of multilateral compliance overhead that implies.

SECTION 1

Two structural features compound the divergence. First, neither state's annual NHAI (India's national highway authority) award km or contract value is disclosed in NHAI Annual Reports or PIB statements; project-level contractor names, land-acquisition percentages, and cost-overrun data for the major Eastern India packages remain outside the public record. This is a confirmed gap, not a research failure — MoRTH (India's federal highways ministry) has explicitly stated that state-wise allocation data is not published. Vendor enlistment with the federal defence infrastructure authority typically runs 6-18 months from application to first purchase order, a timeline foreign suppliers consistently underestimate when modeling Eastern India entry. Second, Bharatmala Phase-I is closed to new awards; balance pipeline has been transitioned to the National Highways (Original) scheme, which alters how annuity payment visibility and budget tracking flow through to PE financial models built on the older programme architecture.

> **FIELD OBSERVATION**
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> Federal infrastructure payment cycles in Eastern India typically run 90-180 days from bill submission to receipt; state-level government projects frequently extend beyond 180. Across multiple federal procurement engagements in West Bengal and Odisha, the cycle has behaved as the binding constraint on new-entrant competitiveness — not manufacturing cost, not technical qualification. PE counterparty models that assume contractual payment terms without adjusting for state-level execution behavior will underprice working-capital exposure on West Bengal-obligor assets.

PE diligence on Eastern India should disaggregate by state, not by region. Risk premia on West Bengal obligor exposure should be set independently of Odisha exposure, and the multilateral covenant architecture in West Bengal should be priced as both a discipline asset and an execution constraint — not, as it is often modeled, as a neutral overlay.

Sources: MoRTH RS Reply on Bharatmala Status, 18 Dec 2024 (PRID=2085551); PIB PRID=2239048, 12 Mar 2026; PIB PRID=2157891, 19 Aug 2025; NHAI Annual Report 2023-24; ADB Project 57148-001, 58035-001, 56334-002; World Bank PAD P174825, P162679, P166020. Field observations: Amiya Bera, principal, Indus Corridor Intelligence.

SECTION 2

2. Supply Chain Anatomy

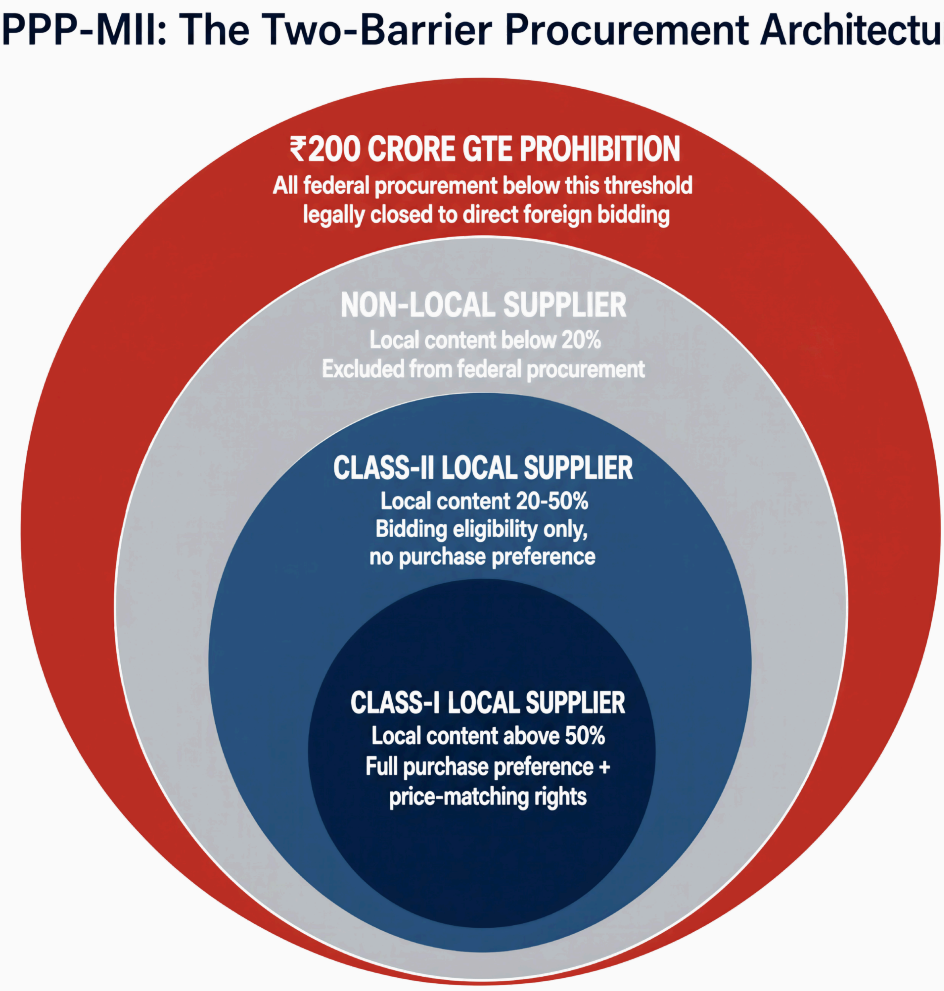
The Eastern India infrastructure supply chain is structurally fragmented across procurement, fabrication, and last-mile mobilization, and no Tier-1 contractor in the region functions as an integrated supply chain partner. India's largest engineering conglomerate ($23B revenue) and its peers are assemblers — they coordinate vendor packages, they do not derisk them. For a foreign sponsor, this means supply-chain integration is a problem to be solved by the sponsor, not a service bundled into the EPC contract.

The fragmentation begins with the supply paradox. Eastern India hosts approximately 25% of India's primary steel capacity, with three of the country's largest integrated complexes — Tata Steel Kalinganagar (8 MTPA, the country's largest blast furnace at 5,870 m³ inner volume commissioned February 2026), Jindal Steel Angul (12 MTPA after the March 2026 BOF-3 commissioning), and SAIL Rourkela (4.2 MTPA, operating at 96% utilization in the October 2024 – March 2025 window) — all sitting inside Odisha. SAIL Durgapur in West Bengal (2.2 MTPA) is India's principal producer of forged railway wheels and axles, a captive-demand position insulated from commercial cycles. The cement story is more constrained: West Bengal's FY29 cement demand is forecast at 37.9-41.5 MTPA against confirmed plant capacity well below that (Dalmia Bharat Bengal Cement Works 4.0 MTPA, ACC Farakka 2.4 MTPA, UltraTech Dankuni partial), and Odisha shows a similar deficit gap that newly approved NCL Industries and Dalmia greenfield plants (₹2,000 crore (~$238M) each) will not close before 2028-2029. Current projects depend heavily on clinker and cement freighted in from other states.

SECTION 2

The asymmetry is logistics. The Dedicated Freight Corridor terminates at Sonnagar, Bihar. The Kharagpur–Vijayawada (East Coast) and Kharagpur–Dankuni (East-West) corridors are at Detailed Project Report stage with no sanctioned construction timeline. Kalinganagar, Rourkela, and Angul move product entirely by general Indian Railways freight or road, at general rail rates above the DFC's 1.2-1.5 ₹/MT/km. Where a DFC logistics-deflation thesis is applied nationally, it fails east of Sonnagar — the operational network reaches only Ludhiana–Sonnagar, not to any Eastern India steel mill. Landed costs at peri-urban project sites consistently run 15-20% above ex-factory price; the premium compounds further for interior Odisha. This is the central fragmentation that Section 4 will quantify.

The PPP-MII cascade


PPP-MII: The Two-Barrier Procurement Architecture
₹200 CRORE GTE PROHIBITION
All federal procurement below this threshold legally closed to direct foreign bidding
NON-LOCAL SUPPLIER
Local content below 20%
Excluded from federal procurement
CLASS-II LOCAL SUPPLIER
Local content 20-50%
Bidding eligibility only, no purchase preference
CLASS-I LOCAL SUPPLIER
Local content above 50%
Full purchase preference + price-matching rights

Sources: DPIIT PPP-MII Revision Order, 16.09.2020; DPIIT FAQ update, 19.07.2024; DPIIT Annual Reports 2024-25 and 2025-26 (50% baseline unchanged).

The fragmentation is then made legally binding by the local content regime. India's Public Procurement Preference to Make in India (PPP-MII) Order — administered by DPIIT (India's federal industrial-policy department) — in its current form (50% Class-I threshold, unchanged as of mid-2026), is no longer a compliance checkbox.

SECTION 2

Achieving Class-I status — the 50% local content threshold — grants automatic price-matching rights on 50% of every relevant divisible tender, regardless of original bid price; for non-divisible turnkey contracts, the lowest Class-I supplier within a 20% margin can match the lowest bid (L1) for the full contract. This is a commercial weapon, and Indian government suppliers structure their entire BOM optimization around crossing the 50% line.

The binding constraint is the ₹200 crore (~$24M) Global Tender Enquiry prohibition. No procurement below this threshold permits a Global Tender Enquiry — meaning the sub-₹200 crore market, which captures the vast majority of individual infrastructure material contracts (steel packages, cement supply, PEB systems, specialty cladding), is a legally protected domestic market. A foreign manufacturer cannot independently bid these contracts. The practical entry routes reduce to two: a 50:50 JV with a domestic partner (Tata BlueScope model — Tata's Class-I status confers automatic local supplier qualification on the JV), or a wholly-owned subsidiary with onshore manufacturing capacity (Zamil Steel model — 100,000 MTPA in India qualifies the entity directly). A third route — import-and-distribute — fails on both economics (full ODC freight plus tariffs) and policy (non-local classification).

FIELD OBSERVATION

Vendor enlistment with India's federal defence infrastructure authority typically requires 6-18 months from application to first purchase order — physical factory inspection, technical committee evaluation, documentation review across audited balance sheets, bank solvency certificates, and machinery ownership proof. RDSO registration for railway supply runs longer: a 24-month developmental vendor period precedes full approved-vendor status, and total realistic timeline from UVAM application to AVL placement is 24-36 months; time from AVL placement to first substantial purchase order adds a further 6-18 months, giving a full commercial timeline of 30-42 months in the typical case, where the AVL-to-first-PO stage runs approximately 6 months. Foreign manufacturers modeling Indian federal procurement entry on a 12-18 month horizon are planning on the wrong calendar.

The scrutiny is also tiered, not flat. Defence procurement authorities (MES — India's federal defence infrastructure authority — ISRO, HAL, Garden Reach Shipbuilders) evaluate technical depth of indigenization — IP ownership, semiconductor origin, software architecture, subsystem manufacturing depth. Centralized procurement systems (Indian Railways via DSR and the Government e-Marketplace, BRO, Army) sit in the middle tier. Common federal and state-owned enterprises (NTPC, Indian Oil, SAIL) apply the 50% threshold with auditor certificate verification above ₹10 crore (~$1.2M) but rely heavily on price as the dominant award criterion. For PE investors, this means a single "India federal procurement risk" line item misprices the underwriting: the compliance architecture required to win MES contracts is qualitatively different from what is required to supply a petroleum refinery.

For a foreign sponsor, the operating implication is unambiguous. The supply chain cannot be assembled in 18 months; the procurement framework cannot be entered through export-import; and the Tier-1 EPC contractor will not bridge either gap. JV structuring or onshore subsidiary investment is the default path, not the exception, and the diligence work is the partner — not the policy.

Sources: Tata Steel/SAIL/Jindal/JSW plant data (worldsteel, GMK Center, Argus Media, Tribune, Global Energy Monitor, 2024-2026); DFCCIL operational network data; cement plant data (Dalmia Bharat, ACC Limited, UltraTech, NCL Industries); DPIIT PPP-MII Order (15.06.2017 with revisions 04.06.2020 and 16.09.2020); DPIIT FAQ update 19.07.2024; DPIIT Annual Reports 2024-25, 2025-26; RDSO UVAM portal documentation; Field observations: Amiya Bera — MES enlistment and HIL/Fenesta procurement experience.

SECTION 3

3. Vendor and Procurement Landscape

The Eastern India PEB and federal procurement vendor ecosystem is thinner and more relationship-dependent than the organized-market concentration data suggests, and surge capacity for priority government projects does not exist independent of incumbent relationships. The 80-85% organized-tier concentration in the hands of the top 6-7 manufacturers is widely cited; what is rarely noted is that the organized tier is itself only 42-47% of the total India PEB market. The arithmetic — six to seven players controlling roughly 35-40% of total national PEB supply — is the number that matters for federal infrastructure procurement, because government-grade work flows through the organized tier almost exclusively.

The five vendors that determine outcomes for federal-grade PEB supply in Eastern India are Kirby Building Systems (Kuwait-origin wholly-owned subsidiary, the volume leader at over 400,000 MTPA across five Indian facilities, confirmed on the Military Engineering Services Approved Vendor List for design, manufacturing, supply, and execution of PEB and structural steel), Interarch Building Products (the listed Indian player at approximately 7% organized share, 206,000 MTPA capacity post-expansion, ₹1,695 crore order book as of July 2025 — roughly 1.2x FY2025 revenues, with an 80% repeat order ratio anchored in automotive, FMCG, and paints), Zamil Steel India (Saudi Arabia-origin wholly-owned subsidiary, 100,000 MTPA at Pune and Trichy, ₹869 crore FY25 revenue, qualifying as domestic manufacturer under the PPP-MII framework through onshore manufacturing), Tata BlueScope Steel (50:50 JV with BlueScope Australia, USD 1.5M JV profit FY25 — a low-margin indicator, but the JV structure inherits Tata's Class-I local supplier status), and Everest Industries (mid-tier, 54,000 MTPA, ₹1,575 crore corporate FY24 revenue across all divisions, PEB-specific revenue not disaggregated). Pennar Industries (36,000 MTPA at Raebareli, UP) sits adjacent — positioned to intercept Eastern India demand without full West-to-East ODC freight.

The Federal-Grade PEB Supply Pool — Eastern India

VENDOR	ORIGIN STRUCTURE	CAPACITY (MTPA)	FEDERAL PROCUREMENT STATUS
Kirby Building Systems	Kuwait (Wholly-Owned Subsidiary)	>400,000 MTPA — 5 Indian plants	MES Approved Vendor List confirmed. Volume leader for federal-grade PEB supply.
Interarch Building Products	India (NSE-listed)	206,000 MTPA (post-expansion)	₹1,695 cr order book Jul 2025. 80% repeat order ratio. Automotive and FMCG anchor.
Zamil Steel India	Saudi Arabia (Wholly-Owned Subsidiary)	100,000 MTPA — Pune + Trichy	Class-I local supplier via onshore manufacturing. PPP-MII compliant.
Tata BlueScope Steel	India-Australia (50:50 Joint Venture)	Not publicly disclosed	Class-I via Tata's domestic supplier status. USD 1.5M JV profit FY25.
Everest Industries	India (BSE-listed)	54,000 MTPA	Corporate ₹1,575 cr FY24 revenue across all divisions. PEB not disaggregated.

Sources: Grand View Research and IMARC Group market sizing (2024-25); Interarch regulatory filings, July 2025; Gap research on Kirby MES AVL placement; Field observation, Amiya Bera.

SECTION 3

This is the practical supply pool for Eastern India federal-grade PEB demand. During the 2021-2023 cycle, when these vendors operated at order books of 1.0-1.2x annual revenue in unexecuted work, no surge capacity existed for emergency or priority government projects. Lead time to Eastern India sites from major organized manufacturers runs 4-6 months under normal conditions; it extended to 6-10 months during the post-COVID demand surge. Intra-East route logistics add 2-4 weeks beyond plant-gate-to-Central-India equivalents. The consequence for PE underwriting is not a cost overrun — it is a schedule extension that delays asset revenue generation. Construction timelines that assume 3-month PEB procurement are calibrated against the wrong calendar.

> **FIELD OBSERVATION**
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> During the deployment of 100+ COVID emergency hospital facilities across Odisha, the PEB erection contractor base was assembled through a three-step manufacturer franchise enrollment mechanism, not procured from an existing independent contractor market. Product specification was first enlisted with the Odisha National Health Mission and approved by Odisha Public Works Department; tender specifications were written around the enlisted product; erection contractors were then identified through PWD relationship channels and enrolled into the manufacturer's franchise network. The qualifying credential for Odisha contractors was an existing PWD relationship — not independent PEB technical capability. Of the seven erection contractors deployed across the program, four were Odisha-based (small to mid capacity, primarily PWD civil contractors who had adapted to structural steel work), two were from North India through pan-India manufacturer franchise networks, and one was from West Bengal. For PE investors evaluating infrastructure assets with Eastern India PEB construction exposure, erection capacity is a project-specific assembly requirement, not a stable independent market.

The erection layer is the buried risk. Fabrication capacity and erection capacity are not the same constraint, but a model that does not separate fabrication from erection capacity will misread execution depth. The Odisha erection ecosystem is thin, relationship-dependent, and operationally subordinate to the product manufacturer's enrollment program rather than an independent market of specialist contractors. This means execution depth on Eastern India PEB-heavy projects depends not on the nameplate manufacturing capacity of the chosen vendor, but on that vendor's ability to assemble erection contractors through state PWD relationship channels — a capability that is invisible in standard vendor prequalification documents.

Two further dynamics shape the landscape. The first is hub migration: new fabrication capacity is emerging at Ranchi (Jharkhand) and Raipur (Chhattisgarh) — proximity plays to Tata Steel and SAIL downstream parks, reducing the historical West-to-East ODC freight burden for Eastern India projects. The migration is not complete; Maharashtra and Gujarat hubs still dominate national supply, and the new facilities are incremental rather than replacements. But the directional signal is meaningful for 3-5 year underwriting horizons. The second is consolidation pressure: coking coal spot prices at USD 350-425 per tonne during the 2024-25 cycle pushed over 60% of unorganized MSME PEB fabricators into negative cash flow, accelerating market share toward the organized tier. For Eastern India infrastructure projects, the effective supplier pool for government-grade PEB is narrowing, not expanding.

SECTION 3

Across this landscape, compliance and inclusion are separate problems. Meeting the formal PPP-MII threshold and clearing MES or RDSO vendor qualification establishes eligibility — placement on the approved list. Inclusion in the active procurement ecosystem requires execution credibility and relationship capital accumulated over time, which is why the realistic timeline from first RDSO application to first substantial purchase order runs 30-42 months. For PE investors, the operating implication is that vendor diligence on Eastern India PEB-exposed assets must look past the approved-vendor list and verify three things independently: incumbent project relationships of the chosen vendor with the specific state PWD; the depth of the vendor's erection-contractor enrollment network in the project geography; and the vendor's order book exposure during the underwriting horizon. Nameplate manufacturing capacity is the last of these, not the first.

Sources: India PEB market sizing — Grand View Research, IMARC Group, Mordor Intelligence (2024-25); Interarch regulatory filings, July 2025; Gap research on Kirby MES AVL status; Ranchi/Raipur hub migration data; RDSO UVAM portal documentation; DPIIT PPP-MII Order, 16.09.2020; Field observations: Amiya Bera — HIL Key Account Management East India, Odisha COVID emergency hospital deployments through Odisha NHM and PWD (2020-2024); MES vendor enlistment experience

SECTION 4

4. Logistics and Cost Vulnerabilities

PE underwriting models for Eastern India infrastructure will underprice landed-cost risk because they apply a national logistics-deflation thesis that does not extend east of Sonnagar. The Dedicated Freight Corridor terminates at Sonnagar, Bihar. The Kharagpur–Vijayawada East Coast Corridor and the Kharagpur–Dankuni East-West Corridor are at Detailed Project Report stage with no sanctioned construction timeline. Kalinganagar, Rourkela, and Angul — Eastern India's three largest integrated steel complexes, hosting roughly 25% of national primary steel capacity — move product entirely by general Indian Railways freight or road, at rates above the DFC's 1.2-1.5 ₹/MT/km benchmark. The cost-reduction catalyst cited in pre-investment memos applies only to the operational Ludhiana–Sonnagar stretch. It does not apply to any Eastern India steel mill on any horizon currently under active sanction.

The landed-cost premium is the persistent consequence. Construction material delivered to peri-urban West Bengal and coastal Odisha project sites runs 15-20% above ex-factory price; for interior Odisha and tribal districts, the premium compounds further through transshipment requirements, longer last-mile distances, and thin logistics-operator competition. Heavy-duty trailer economics (₹1.51/MT/km at full load, theoretically competitive with average rail freight at ₹1.90-1.96/MT/km) are nullified in Eastern India by the return-load deficit. Industrial output flows westward and southward — steel, coal, minerals moving toward consumption centers — while construction materials flow the reverse direction into project sites. Operators price empty return runs into outbound rates, adding 30-40% to theoretical empty-weight economics. This is why organized national logistics operators consistently price Eastern India construction delivery above Central or Western India equivalents.

The fragmentation underneath these rates is structural. 85-90% of India's road transport sector operates through small fleet operators (1-5 trucks) and unorganized operators; in Odisha, owner-operator saturation reaches approximately 75%, with overloading functioning as a routine survival strategy against fuel costs running 60-65% of operating expenses. Telematics penetration sits at 40-45% of commercial vehicles, covering organized large fleet operators only. Documented delay data confirms the operational consequence:

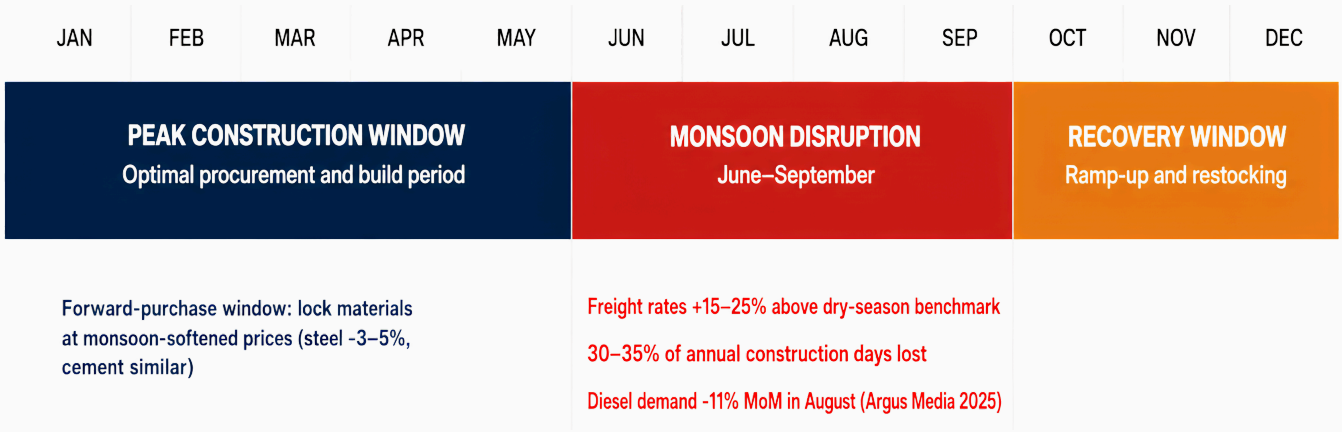
SECTION 4

Documented Eastern India infrastructure delays

PROJECT	DOCUMENTED DELAY	COST ESCALATION	PRIMARY CAUSE
NH-59 Berhampur Bypass (Odisha)	673 days	₹8.2 crore	Land acquisition + logistics bottlenecks
NH-130CD Koraput Package 3 (Odisha)	612 days	₹5.37 crore	Site accessibility + supply chain disruption
Urban Water Pipeline (West Bengal)	~12 months	15–18% on ₹185 crore contract value	Material inflation + regulatory clearance delays

Sources: Parliamentary assessment of Odisha NH projects, January 2026; West Bengal urban water pipeline delay reporting, 2025.

Eastern India Construction Seasonality and Monsoon Risk Window



Sources: Argus Media 2025; field observation — Indus Corridor Intelligence, 2026; DPIIT-NCAER Logistics Cost Assessment FY2023-24, December 2025

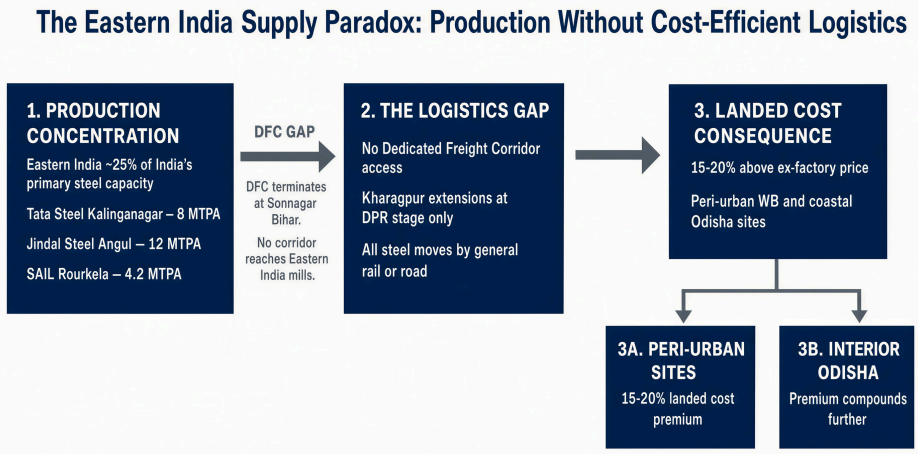
FIELD OBSERVATION

At a warehouse construction project in Howrah, West Bengal, three consecutive days of heavy rainfall and severe waterlogging rendered the site non-workable — materials in open storage damaged, access impassable, all activity suspended. The site did not return to operational status for approximately 15 days. The project owner, consistent with standard NHAI-aligned contract practice, did not provide financial compensation; the timeline extension request was accepted, but the cost burden — extended overheads, damaged materials, idle labor — sat entirely with the contractor. Most contractors operating in Eastern India have learned to embed monsoon-delay and force-majeure provisions within their commercial terms not to recover costs, but to protect schedule credibility against liquidated damages exposure during the June–September window.

SECTION 4

The monsoon overlay is asymmetric in two directions. Freight rates rise 15-25% above dry-season benchmarks during June-September as rural state roads become impassable for heavy vehicles; diesel demand drops 11% month-on-month in August (Argus Media, 2025), confirming operational paralysis. Simultaneously, construction material procurement prices soften — steel by 3-5%, cement by similar margins — as construction demand falls and mills offer marginal discounts to maintain throughput. The arithmetic creates a structural advantage for project sponsors with covered storage and working capital, who can forward-purchase primary materials at monsoon-window prices for post-monsoon delivery, locking in the dry-season build program at below-peak material cost. Small contractors cannot. This asymmetry is invisible in project cost models built on annualized material price assumptions.

The Odisha cyclone overlay adds a distinct peril. Odisha's coastline is among India's most cyclone-exposed; Cyclone Fani (May 2019, ₹525 crore (~$63M) in documented highway-infrastructure damage, NDMA 2019) and Cyclone Yaas (May 2021) are recent precedents. The NH-16 Chandikhole – Bhadrak corridor, one of the larger Odisha highway packages in the current pipeline runs through the highest-risk coastal belt. PE investors underwriting NH-16 corridor assets must model cyclone risk separately from operational monsoon risk; these are distinct perils with different frequency and severity profiles. West Bengal's flood profile is different: Damodar Valley Corporation reservoir releases periodically flood the Durgapur–Asansol corridor (NH-19), and the Petrapole land port saw 150 trucks stranded for two months on the Bangladesh side in late 2025 at detention charges of approximately ₹3 lakh (~$3,600) per truck per day, a documented disruption that infrastructure projects using imported specialty materials must price into supply chain risk matrices.


The Eastern India Supply Paradox: Production Without Cost-Efficient Logistics
1. PRODUCTION CONCENTRATION
Eastern India ~25% of India's primary steel capacity
Tata Steel Kalinganagar – 8 MTPA
Jindal Steel Angul – 12 MTPA
SAIL Rourkela – 4.2 MTPA
DFC GAP
DFC terminates at Sonnagar Bihar.
No corridor reaches Eastern India mills.
2. THE LOGISTICS GAP
No Dedicated Freight Corridor access
Kharagpur extensions at DPR stage only
All steel moves by general rail or road
3. LANDED COST CONSEQUENCE
15-20% above ex-factory price
Peri-urban WB and coastal Odisha sites
3A. PERI-URBAN SITES
15-20% landed cost premium
3B. INTERIOR ODISHA
Premium compounds further

For PE underwriting, the implications stack. Landed-cost assumptions should benchmark to peri-urban WB/Odisha premiums of 15-20% above ex-factory, with interior Odisha modeled separately at higher premiums. DFC-driven logistics deflation should not be modeled as a 2026-2028 catalyst for Eastern India assets. NHAI EPC contracts grant Extension of Time under Clause 21.4 for adverse weather conditions but provide no financial compensation — the contractor absorbs the monsoon cost burden, which cascades to material suppliers through extended payment cycles. Risk premia on Eastern India highway and federal-procurement-exposed assets should reflect both the structural landed-cost premium and the documented schedule risk that the parliamentary delay data confirms is already materializing.

Sources: DFCCIL operational network data; DPIIT-NCAER Logistics Cost Assessment FY2023-24 (Dec 2025); IMD 2024 Southwest Monsoon data; Parliamentary Odisha NH project delay assessment (Jan 2026); Tata Projects monsoon safety programme (2023); Argus Media diesel demand data (Aug 2025); NHAI EPC Agreement 2026 Clause 21.4; NDMA cyclone-prone district data; Field observations: Amiya Bera — Howrah warehouse project, hill-route delivery operations, 13 years B2B project supply across Eastern India

SECTION 5

5. Regulatory and Compliance Risks

Two regulatory developments have repriced Eastern India infrastructure execution risk within a single underwriting cycle, and PE models built before January 2026 do not reflect either. The first is the MoRTH (India's federal highways ministry) circular dated 12 January 2026 (No. H-25011/02/2025-P&P), which abolished arbitration for claims above ₹10 crore (~$1.2M) on BOT, HAM, and EPC highway contracts. Disputes below ₹10 crore retain access to institutional arbitration (SAROD or IIAC); disputes at or above the threshold must navigate mandatory conciliation followed by civil court litigation, with arbitration expressly excluded. The circular applies with immediate effect and purports to override existing dispute-resolution clauses in signed contracts. The National Highways Builders Federation has formally opposed it; no Supreme Court challenge has been filed as of May 2026. Indian civil court timelines for commercial disputes routinely extend 5-10 years against the 2-4 year arbitration cycle that previously protected contractor cash flow.

The second development is the documented payment-delay scale. 82% of Indian infrastructure contractors faced payment delays beyond 30 days past contractual due date (ICRA Construction Sector Outlook 2024-2025) — up from 49% two years prior. Pending NHAI arbitration claims reached ₹1,17,463 crore (~$14bn) across 138 cases in the NHAI Annual Report 2023-24, exceeding NHAI's full-year capital budget (NHAI Annual Report 2023-24). The contractual 30-day benchmark is real; the 80-150 day actual operating cycle confirmed across ICRA and CARE rating rationales is also real. PE financial models built on contractual terms will overestimate contractor working capital adequacy.

The state asymmetry is decisive. Odisha ranks among the best Indian states on the NITI Aayog Fiscal Health Index — mining royalty revenues backstop state balance sheets, and payment delays are administrative in character rather than fiscal. West Bengal ranks among the worst, and a reported state-level payment freeze in May 2026 (The Telegraph, Kolkata) confirmed the downside case. For mixed central-state co-financed projects, the state-funded component and the NHAI-funded component carry fundamentally different payment reliability profiles and must be modeled separately.

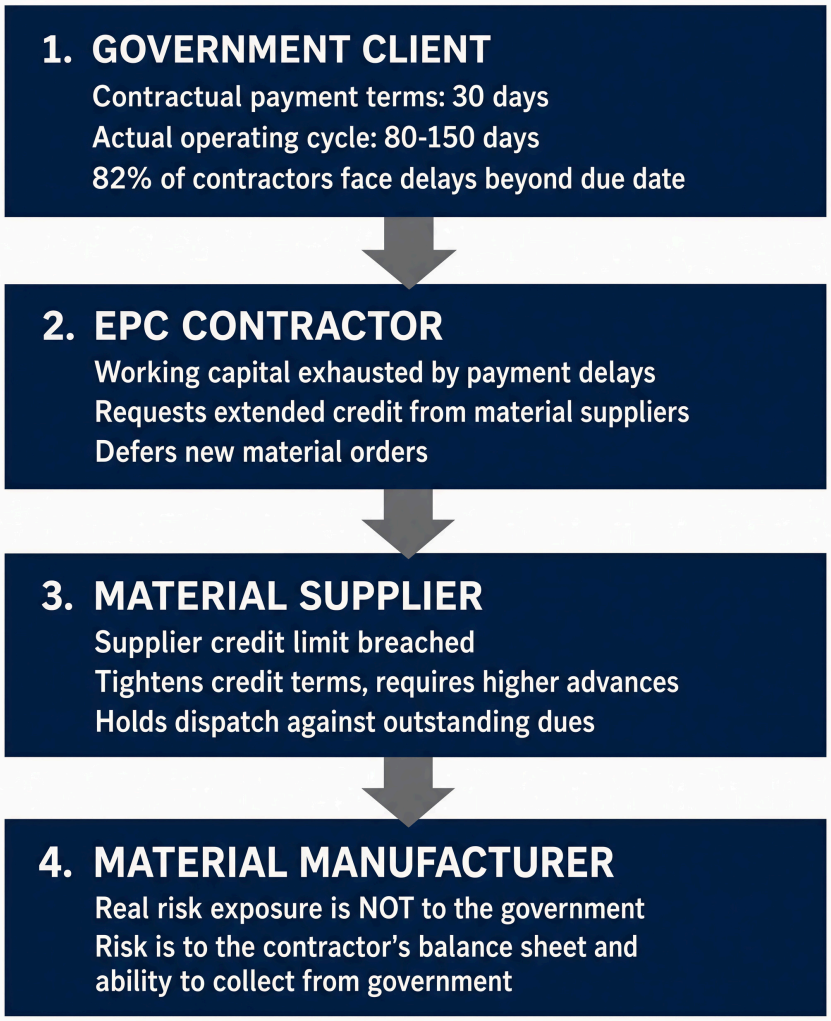
> **FIELD OBSERVATION**
>
> Government payment delays cascade directly to material manufacturers through the contractor credit system. When state PWD cycles extend to 90-120+ days, contractors exhaust supplier credit limits, defer orders, and request extended terms. The effective risk exposure on Eastern India state projects is not the government counterparty — it is the contractor's balance sheet and their ability to collect.

Risk premia on West Bengal obligor exposure should be set independently of central NHAI exposure, and working capital reserves on NHAI EPC underwriting should be raised to reflect the narrower dispute architecture.

Sources: MoRTH Circular No. H-25011/02/2025-P&P, 12 Jan 2026; NHAI Annual Report 2023-24 (arbitration data); ICRA Construction Sector Outlook 2024-2025; CARE rating rationales 2024-2026; NITI Aayog Fiscal Health Index 2024-2025; Cyril Amarchand and Conventus Law analyses of the MoRTH circular, Feb 2026; Field observations: Amiya Bera.

SECTION 5

The Infrastructure Payment Cascade


1. GOVERNMENT CLIENT
Contractual payment terms: 30 days
Actual operating cycle: 80-150 days
82% of contractors face delays beyond due date
2. EPC CONTRACTOR
Working capital exhausted by payment delays
Requests extended credit from material suppliers
Defers new material orders
3. MATERIAL SUPPLIER
Supplier credit limit breached
Tightens credit terms, requires higher advances
Holds dispatch against outstanding dues
4. MATERIAL MANUFACTURER
Real risk exposure is NOT to the government
Risk is to the contractor's balance sheet and ability to collect from government

Source: Field observation — Indus Corridor Intelligence, 2026

SECTION 6

6. Strategic Recommendations

For foreign manufacturers entering Eastern India. Select the JV or wholly-owned subsidiary partner on PWD relationship infrastructure as a primary criterion, not a secondary one — the Odisha erection-contractor evidence (Section 3) confirms that incumbent state PWD relationships, not nameplate manufacturing capacity, determine project-level execution depth. Build relationship strategy concurrent with the compliance process; the 30-42 month realistic timeline from first RDSO (India's railways technical-standards and vendor-approval body) application to first substantial purchase order reflects relationship maturation, not regulatory delay. Verify HSN (Harmonised System of Nomenclature — India's product-classification code) classification with legal counsel before tendering on PEB, roofing, cladding, or UPVC product categories; post-award classification disputes surface during billing approval, not at tender stage, and create payment risk that is invisible until commercial execution begins. For Odisha state procurement specifically, map MSME Rate Contract product categories before investing in compliance infrastructure — PPP-MII Class-I status confers no advantage in categories where Rate Contract holders bid without tender.

SECTION 6

For PE firms evaluating Eastern India infrastructure assets. Disaggregate counterparty risk by state; the West Bengal–Odisha fiscal-health divergence (Section 1, Section 5) means identical project structures carry materially different counterparty profiles, and the reported May 2026 West Bengal payment freeze (The Telegraph, Kolkata) confirmed the downside case. Raise working capital reserve assumptions by 30-50% above contractual payment cycle on NHAI EPC underwriting post-January 2026 to reflect the narrower dispute-resolution architecture established by the MoRTH arbitration circular (Section 5). Verify erection-contractor availability independently of fabrication capacity on PEB-heavy assets; Section 3's Odisha evidence shows these are different constraints. Treat the DFC expansion narrative as inoperative for Eastern India steel logistics on the 2026-2028 horizon (Section 4); landed-cost premiums of 15-20% above ex-factory should be modeled as structural, not transitional.

For development organizations operating in Eastern India. Recognize that Odisha's infrastructure pipeline runs on central government capital and private flows without multilateral cover (Section 1); this creates lower covenant overhead but also less procurement-discipline backstop. Build cyclone risk into NH-16 and coastal Odisha project models separately from operational monsoon risk; these are distinct perils with different frequency profiles (Section 4). Treat contractor working capital adequacy as a primary diligence variable on state-funded projects given the payment cascade mechanism (Section 5).

What would change this view. A Supreme Court stay or modification of the MoRTH 12 January 2026 arbitration circular would re-open contractor dispute recourse. Formal DPIIT gazetting of the 70% Class-I local-content threshold under review since April 2024 would force foreign JV partners currently meeting 50-69% to lose Class-I status overnight. Sanctioned construction of the Kharagpur–Vijayawada or Kharagpur–Dankuni DFC extensions would re-price Eastern India landed-cost economics within a five-year horizon. None of the three is imminent.

Methodology, Sources, and Author Note

Methodology

This brief draws on three evidence tiers. For regulatory and policy facts: Government of India primary documentation — MoRTH circulars, NHAI Annual Report 2023-24, DPIIT PPP-MII Orders (2017 and revisions through July 2024), PIB releases through March 2026, parliamentary committee assessments through January 2026. For project capital and execution data: multilateral project portfolios (ADB, World Bank, AIIB, JICA, IFC disclosures, 2024-2026). For operational realities: Indian rating agency rationales (ICRA, CARE, India Ratings) cross-validated against thirteen years of B2B project supply across Eastern India infrastructure. Field observations are integrated where documentary anchoring exists; isolated observations are flagged through the confidence calibration applied throughout the brief. Period of analysis: October 2024 through May 2026.

Named structural gaps

Several data categories are confirmed unavailable in the public domain and are noted here rather than filled with inference: state-wise NHAI annual award km and value (MoRTH has confirmed no state-wise allocation is published); EPC contractor names and land-acquisition percentages for individual highway packages; project-level cost-overrun data (only aggregate programme figures available); central debarment registry for PPP-MII compliance failures (does not exist); West Bengal state-level adoption of the July 2024 DPIIT amendments (state gazette not located). These gaps are themselves due-diligence signals.

Sources

A consolidated source appendix is available on request through Indus Corridor Intelligence.

Author Note

Amiya Bera is the principal of Indus Corridor Intelligence. Thirteen years of B2B field experience across India, Nepal, Bangladesh, Bhutan, and Maldives. MSc Geography and MBA Marketing. Direct involvement in federal procurement enlistment with Indian Railways, India's federal defence infrastructure authority, and the Federal Public Works and Construction Board, including coordination with India's largest engineering conglomerate ($23B revenue) on the Teesta River Bridge over three years of continuous supply, and the deployment of 100+ COVID emergency hospital facilities across Odisha.